

**WHAT IS CLAIMED IS:**

- 1           1.       A software architecture comprising:  
2           a database layer;  
3           a services layer, coupled to said database layer; and  
4           a needs analysis module, coupled to said services layer.
  
- 1           2.       The software architecture of claim 1, wherein said needs analysis  
2           module is configured to permit identification of a product based on attribute  
3           information.
  
- 1           3.       The software architecture of claim 1, wherein said services layer  
2           comprises a filter service.
  
- 1           4.       The software architecture of claim 3, wherein  
2           said filter service is configured to provide a product identifier to said needs  
3           analysis module in response to a product attribute received from said  
4           needs analysis module,  
5           said product identifier identifies a product, and  
6           said product attribute is an attribute of said product.
  
- 1           5.       The software architecture of claim 4, wherein  
2           said database layer comprises a database, and  
3           said filter service is configured to use said product attribute to retrieve said  
4           product identifier from said database.
  
- 1           6.       The software architecture of claim 3, wherein  
2           said database layer comprises a database, and  
3           said database contains product identifier information, attribute information and  
4           configuration information.

7. The software architecture of claim 6, wherein said database comprises:  
a configuration table, and  
an attribute table.

8. The software architecture of claim 7, wherein  
said configuration table contains said product identifier information and said  
configuration information, and  
said attribute table contains said attribute information.

9. The software architecture of claim 7, wherein  
said attribute table comprises an attribute record comprising  
an attribute field containing said attribute information, and  
an intersection field containing a reference to said configuration record,  
and  
said configuration table comprises a configuration record comprising  
a configuration field containing said configuration information, and  
an identifier field containing said product identifier information.

10. The software architecture of claim 9, wherein  
said configuration information describes a configuration of a product,  
said attribute information describes an attribute of said product, and  
said configuration of said product includes said attribute of said product.

11. The software architecture of claim 9, wherein  
said needs analysis module is configured to access said configuration  
information by virtue of said needs analysis module being configured  
to supply said attribute information to said filter service, and  
said filter service is configured to access said database by virtue of being  
configured to access said database using said attribute information.

1           12.     The software architecture of claim 9, wherein  
2           said reference allows said filter service to access said configuration record by  
3           virtue of said filter service module being configured to access said  
4           attribute record using said attribute information.

1           13.     The software architecture of claim 1, wherein said needs analysis  
2           module is configured to permit identification of a product configuration based on  
3           product identifier information.

1           14.     The software architecture of claim 1, wherein said services layer  
2           comprises a configuration service.

1           15.     The software architecture of claim 14, wherein  
2           said configuration service is configured to provide a configuration list to said  
3           needs analysis module in response to a product identifier received from  
4           said needs analysis module, and  
5           said product identifier identifies a product.

1           16.     The software architecture of claim 15, wherein  
2           said configuration list is a list of available features of said product.

1           17.     The software architecture of claim 15, wherein  
2           said configuration list is a list of configurations of said product.

1           18.     The software architecture of claim 15, wherein  
2           said database layer comprises a database, and  
3           said configuration service is configured to use said product identifier to  
4           generate said configuration list from information stored in said  
5           database.

09/06/10 10:12:04

1 19. The software architecture of claim 14, wherein  
2 said database layer comprises a database, and  
3 said database contains product identifier information and configuration  
4 information.

1 20. The software architecture of claim 19, wherein said database  
2 comprises:  
3 a configuration table containing said product identifier information and said  
4 configuration information.

1 21. The software architecture of claim 20, wherein  
2 said needs analysis module is configured to access said configuration  
3 information by virtue of said needs analysis module being configured  
4 to supply said product identifier information to said configuration  
5 service, and  
6 said configuration service is configured to access said database by virtue of  
7 being configured to access said database using said product identifier  
8 information.

1 22. The software architecture of claim 20, wherein  
2 said configuration table comprises a configuration record comprising  
3 a configuration field containing said configuration information, and  
4 an identifier field containing said product identifier information.

1 23. The software architecture of claim 22, wherein  
2 said configuration information describes a configuration of said product, and  
3 said product identifier information identifies said configuration of said  
4 product.

1 24. A software architecture comprising:  
2 a database layer; and

a services layer, wherein said services layer is coupled to said database layer  
and comprises a filter service.

25. The software architecture of claim 24, wherein said filter service is  
configured to permit identification of a product based on attribute information.

26. The software architecture of claim 24, further comprising:  
a module layer, coupled to said services layer, wherein said module layer  
comprises a needs analysis module.

27. The software architecture of claim 26, wherein  
said filter service is configured to provide a product identifier to said needs  
analysis module in response to a product attribute received from said  
needs analysis module,  
said product identifier identifies a product, and  
said product attribute is an attribute of said product.

28. The software architecture of claim 27, wherein  
said database layer comprises a database, and  
said filter service is configured to use said product attribute to retrieve said  
product identifier from said database.

29. The software architecture of claim 26, wherein  
said database layer comprises a database, and  
said database contains product identifier information, attribute information and  
configuration information.

30. The software architecture of claim 29, wherein said database  
comprises:  
a configuration table, and  
an attribute table.

1        31.     The software architecture of claim 30, wherein  
2        said configuration table contains said product identifier information and said  
3        configuration information, and  
4        said attribute table contains said attribute information.

1        32.     The software architecture of claim 30, wherein  
2        said attribute table comprises an attribute record comprising  
3        an attribute field containing said attribute information, and  
4        an intersection field containing a reference to said configuration record,  
5        and  
6        said configuration table comprises a configuration record comprising  
7        a configuration field containing said configuration information, and  
8        an identifier field containing said product identifier information.

1        33.     The software architecture of claim 32, wherein  
2        said configuration information describes a configuration of a product,  
3        said attribute information describes an attribute of said product, and  
4        said configuration of said product includes said attribute of said product.

1        34.     The software architecture of claim 32, wherein  
2        said needs analysis module is configured to access said configuration  
3        information by virtue of said needs analysis module being configured  
4        to supply said attribute information to said filter service, and  
5        said filter service is configured to access said database by virtue of being  
6        configured to access said database using said attribute information.

1        35.     The software architecture of claim 32, wherein  
2        said reference allows said filter service to access said configuration record by  
3        virtue of said filter service module being configured to access said  
4        attribute record using said attribute information.

1 36. A software architecture comprising:  
2 a database layer; and  
3 a services layer, wherein said services layer is coupled to said database layer  
4 and comprises a configuration service.

1 37. The software architecture of claim 36, wherein said needs analysis  
2 module is configured to permit identification of a product configuration based on  
3 product identifier information.

1 38. The software architecture of claim 36, wherein said configuration  
2 service is configured to permit identification of a product based on a product  
3 identifier.

1 39. The software architecture of claim 36, further comprising:  
2 a module layer, coupled to said services layer, wherein said module layer  
3 comprises a needs analysis module.

1 40. The software architecture of claim 39, wherein  
2 said configuration service is configured to provide a configuration list to said  
3 needs analysis module in response to a product identifier received from  
4 said needs analysis module, and  
5 said product identifier identifies a product.

1 41. The software architecture of claim 40, wherein  
2 said configuration list is a list of available features of said product.

1 42. The software architecture of claim 40, wherein  
2 said configuration list is a list of configurations of said product.

1 43. The software architecture of claim 40, wherein  
2 said database layer comprises a database, and

3 said configuration service is configured to use said product identifier to  
4 generate said configuration list from information stored in said  
5 database.

1 44. The software architecture of claim 39, wherein  
2 said database layer comprises a database, and  
3 said database contains product identifier information and configuration  
4 information.

1 45. The software architecture of claim 44, wherein said database  
2 comprises:  
3 a configuration table containing said product identifier information and said  
4 configuration information.

1 46. The software architecture of claim 45, wherein  
2 said needs analysis module is configured to access said configuration  
3 information by virtue of said needs analysis module being configured  
4 to supply said product identifier information to said configuration  
5 service, and  
6 said configuration service is configured to access said database by virtue of  
7 being configured to access said database using said product identifier  
8 information.

1 47. The software architecture of claim 45, wherein  
2 said configuration table comprises a configuration record comprising  
3 a configuration field containing said configuration information, and  
4 an identifier field containing said product identifier information.

1 48. The software architecture of claim 47, wherein  
2 said configuration information describes a configuration of said product, and  
3 said product identifier information identifies said configuration of said  
4 product.



49. The software architecture of claim 1, further comprising:  
a presentation layer; and  
a controls layer, wherein said presentation layer and said controls layer are  
configured to provide an attribute selection to said needs analysis  
module.

50. The software architecture of claim 1, further comprising:  
a presentation layer; and  
a controls layer, wherein said presentation layer and said controls layer are  
configured to provide a product identifier selection to said needs  
analysis module.

51. A method for identifying a product comprising:  
providing an attribute to a filter service;  
identifying a product identifier corresponding to said attribute by causing said  
filter service to query a database using said attribute; and  
causing said filter service to return said product identifier.

52. The method of claim 51, wherein  
said product identifier is associated with a product configuration, and  
said product configuration represents a product having said attribute.

53. The method of claim 52, further comprising:  
causing a needs analysis module to provide said attribute to said filter service;  
and  
causing said filter service to return said product identifier to said needs  
analysis module.

54. The method of claim 51, wherein said querying said database  
comprises:  
accessing an attribute table of said database using said attribute; and

4 accessing said product identifier in a configuration table of said database using  
5 a reference in said attribute table associated with a record of said  
6 attribute table accessed using said attribute.

1 55. The method of claim 54, wherein  
2 said product identifier is associated with a product configuration, and  
3 said product configuration represents a product having said attribute.

1 56. The method of claim 55, wherein  
2 said configuration table comprises said product configuration.

1 57. A method for identifying a product comprising:  
2 providing an product identifier to a configuration service;  
3 identifying a product configuration corresponding to said product identifier by  
4 causing said configuration service to query a database using said  
5 product identifier; and  
6 causing said configuration service to return said product configuration.

1 58. The method of claim 57, wherein  
2 said product identifier is associated with a product configuration in said  
3 database.

1 59. The method of claim 58, further comprising:  
2 causing a needs analysis module to provide said product identifier to said  
3 configuration service; and  
4 causing said configuration service to return said product configuration to said  
5 needs analysis module.

1 60. The method of claim 57, wherein said querying said database  
2 comprises:  
3 accessing a configuration table of said database using said product identifier to  
4 identify said product configuration.

61. The method of claim 60, wherein  
said product configuration is associated with said product identifier.

62. A method for identifying a product comprising:  
selecting a selected feature from a plurality of features, wherein  
said product is one of a plurality of products,  
said product is configured with said selected feature, and  
each of said products is configured with at least one of said features;  
determining which of said products is configured with said selected feature;  
and  
identifying said product as being configured with said selected feature.

63. The method of claim 62, wherein  
said selected feature is one of a plurality of selected features,  
said selected features form a product configuration, and  
said product configuration is an allowable product configuration.

64. The method of claim 63, wherein said product is a vehicle.

65. The method of claim 64, wherein said selected feature is a make of said  
vehicle.

66. The method of claim 64, wherein said selected feature is a model of  
said vehicle.

67. The method of claim 64, wherein said selected feature is a trim level of  
said vehicle.

68. The method of claim 64, wherein said selected feature is an equipment  
level of said vehicle.

1           69.     The method of claim 64, wherein said selected feature is one of a price  
2     range, a vehicle type, an engine type, a fuel economy, an interior feature and a safety  
3     feature.